

Work Order ID 140967***140967***

Page 1

Tuesday, January 26, 2016 3:16:54 PM

Item ID: D2362-3

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Step Support Bracket

Start Date: 1/20/2016

Start Qty: 300 ***3***

Cust Item ID:

Required Date: 1/26/2016

Req'd Qty: 300 ***3***

Customer:

Reference:

Approvals:

Process Plan: MLSDate: **JAN 27 2016**

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start ***NR1***Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D2362

Rev E1

100

0.01

100

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.01

HAAS CNC vertical machine #1

1- Mill as per Folio FA800 Rev: AA & Dwg D2362 Rev: E1 2-Deburr
per dwg D236210 0 SL16-2-18

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

Quality Control

10 0 SL16-2-18

120

QC8- Inspect parts - second check

0.00

120

QC

Memo

0.00

Quality Control

DAS
14
9-8910 0 16/02/18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

Work Order ID 140967

140967

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Tuesday, January 26, 2016 3:16:54 PM

Item ID: D2362-3 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Step Support Bracket
 Start Date: 1/20/2016 Start Qty: 3.00 ***3*** Cust Item ID:
 Required Date: 1/26/2016 Req'd Qty: 3.00 ***3*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	DAS 36 9-89
130	Small Fab	0.00								
130										
Small Fab	Memo	0.00				10x			16/02/19	
Small Fab	Deburr									
140	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00								
140										
Powdercoat	Memo	0.00								
Powder Coating	START TIME: <u>2:30</u> FINISH TIME: <u>3:00</u> OVEN TEMPERATURE: <u>300</u>									
150	QC3- Inspect Part Finish	0.00								
150										
QC	Memo	0.00								
Quality Control										

DAS
36
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 140967

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Item ID: D2362-3 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Step Support Bracket
 Start Date: 1/20/2016 Start Qty: 3.00 ***3*** Cust Item ID:
 Required Date: 1/26/2016 Req'd Qty: 3.00 ***3*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	
160	Small Fab	0.00								
160										
Small Fab	Memo	0.00								
Small Fab	Bond rubber D2397-1 followed by D2397-3 using contact cement as per Dwg D2362									
	Batch <u>M122830</u>									
170	QC5- Inspect part completeness to step on W/O	0.00								
170										
QC	Memo	0.00								
Quality Control										
180	Identify as per dwg & Stock Location: <u>8T537</u>	0.00								
180										
Packaging	Memo	0.00								
Packaging										

DAS
36
9-89

DAS
38
9-89
MAR 04 2016

MAR 07 2016

DAS
26
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval			
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY									
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

Work Order ID 140967

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140967

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Item ID: D2362-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Step Support Bracket
Start Date: 1/20/2016 Start Qty: 3.00 ***3*** Cust Item ID:
Required Date: 1/26/2016 Req'd Qty: 3.00 ***3*** Customer:
Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.00							
Quality Control									

MLJ MAR 07 2016

MLJ MAR 07 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

Picklist Print

Tuesday, January 26, 2016 3:16:53 PM

Page 1

Work Order ID: 140967

140967

Parent Item: D2362-3

D2362-3

Parent Item Name: Step Support Bracket

Start Date: 1/20/2016

Required Date: 1/26/2016

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP: G00.05.18Added inspection level 8EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2265 *D2265* Step Bracket		Manufactured	No			160	Each	30.0000	1	3		DAS 20 9-89	1602-12
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST478a		30							
				122090		30				10			
D2397-1 *D2397-1* Rubber Cushion		Manufactured	No			160	Each	4.0000	1	3		DAS 36 9-89	16/03/02
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				GA		4							
				135872		4				4			B141944 (6x)
D2397-3 *D2397-3* Rubber Cushion		Manufactured	No			100	Each	6.0000	1	3		DAS 36 9-89	16/03/02
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				GA		6							
				135871		4				4			B141945 (4x)
				138895		2				2			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

DART AEROSPACE LTD		Work Order:	140967
Description: Step Support Bracket		Part Number:	D2362-3
Inspection Dwg: D2362	Rev: E1	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.257	+0.005 -0.000	0.257	✓		VERN	SL-10
3.074	+/-0.010	3.074	✓			
0.34	+/-0.030	0.351	✓			
0.77	+/-0.030	0.790	✓			
1.500	+/-0.010	1.500	✓			
1.000	+/-0.010	1.005	✓			
0.80	+/-0.030	0.770	✓			
1.200	+/-0.010	1.207	✓			
1.28	+/-0.030	1.281	✓			
1.000	+0.010 -0.010	0.985	✓			
0.75	+/-0.030	0.760	✓			
1.88	+/-0.030	1.868	✓			

Measured by:	SL	Audited by:	DAS 14 9-89	Prototype Approval:	N/A
Date:	16-2-18	Date:	16/02/18	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	03.10.07	New Issue	KJ/RF	7

DART



RELEASED
98.12.14 KE

DESIGN	DRAWN BY	DART AEROSPACE LTD
BW	<i>CP</i>	HAMKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.
<i>KE</i>	<i>CP</i>	D2362
DATE	TITLE	REV. E
98.12.04	STEP SUPPORT BRACKET	SHEET 1 OF 3
		SCALE
		1:2
A	95.02.15	NEW ISSUE
B	95.03.22	CHANGED RUBBER TO D2397
C	96.01.22	ADD D2362-5
D	97.05.21	ADD D2362-7
E	98.12.04	REDRAWN, ADD 2397-5

UNDER REVIEW

01.03.15 *CP*

DESIGN OK, BUT CHECK WITH
OR BEFORE MANUFACTURE

OK 19/01/04

SEND COPY
RETURN TO
1.0000
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITH NOTICE
WORK ORDER
1409.67 MJS
160527

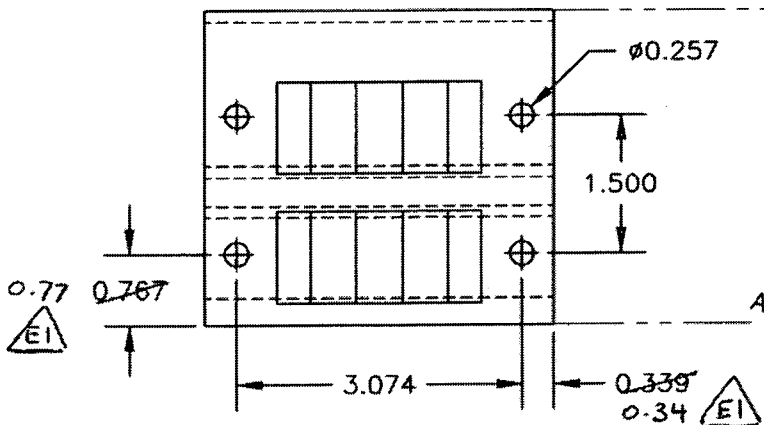
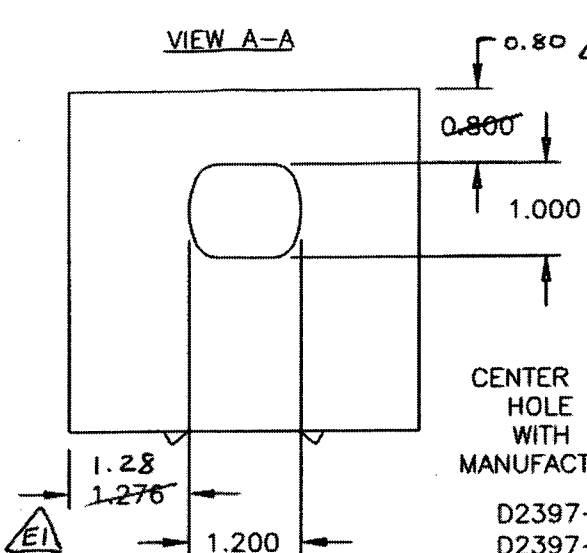
0.257 X 0.75 SLOT

REMOVE TIPS
FROM CASTING
MAX 0.080

CENTER D2397-1/-3 RUBBER
HOLE WITH SLOT AND BOND
WITH CONTACT CEMENT PER
MANUFACTURER'S SPECIFICATION

D2397-1 RUBBER CUSHION (1)
D2397-3 RUBBER CUSHION (1)

VIEW A-A



D2362-3

NOTES:

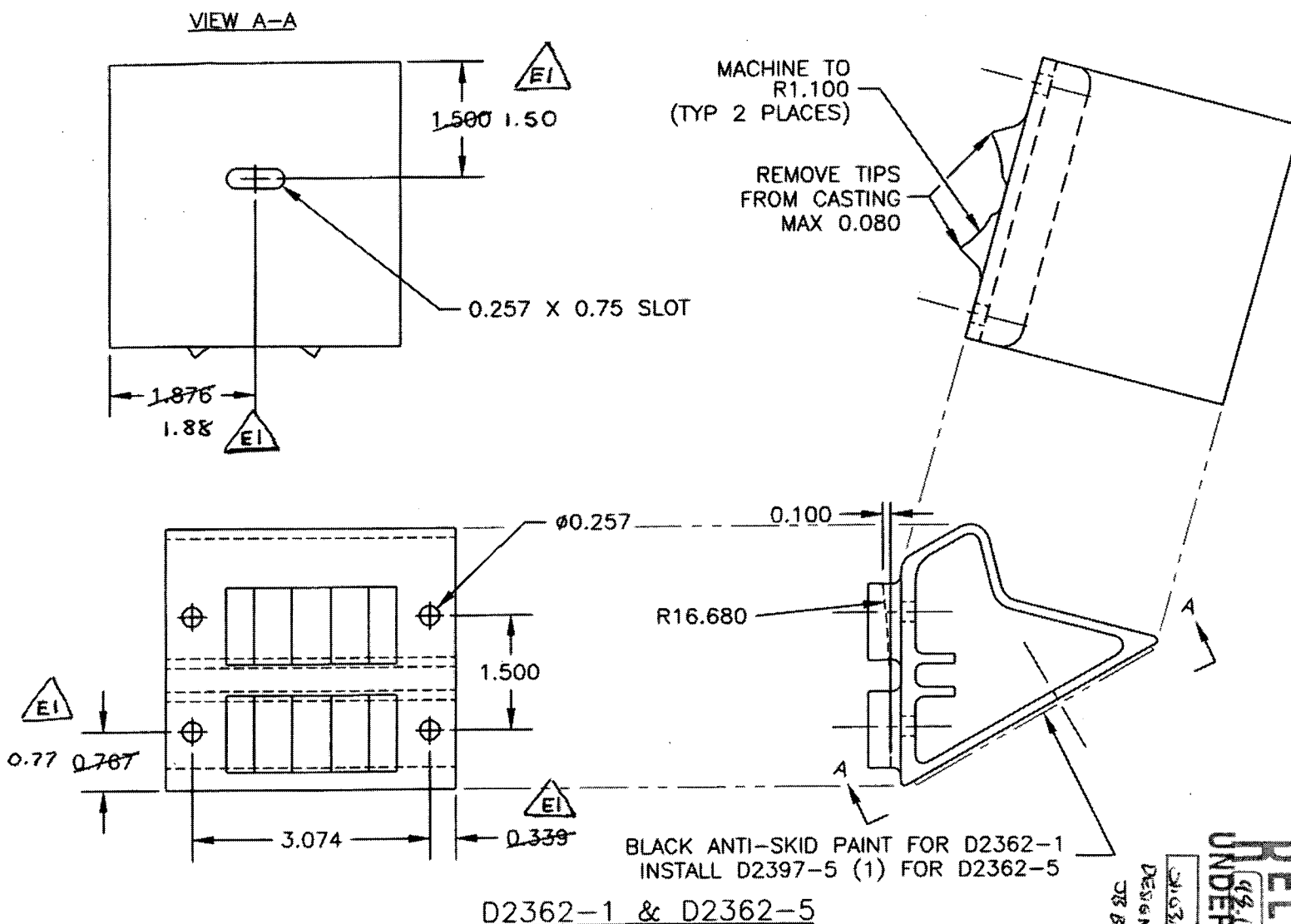
MAKE FROM D2265

FINISH: POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BEFORE BONDING
RUBBER IN PLACE

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



DESIGN	DRAWN BY	DART AEROSPACE LTD
BW	CP	HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.
KE	CP	D2362
DATE	TITLE	REV. E
98.12.04	STEP SUPPORT BRACKET	SHEET 2 OF 3
		SCALE 1:2



NOTES:

MAKE FROM D2265

D2362-1: BLACK ANTI-SKID PAINT PER DART QSI 005 4.4

D2362-5: INSTALL D2397-5 RUBBER CUSHION. ALIGN RUBBER HOLE WITH SLOT AND BOND USING CONTACT CEMENT PER MANUFACTURER'S SPECIFICATION

FINISH: POWDER COAT WHITE (REF. 4.3.5.1) PER QSI 005 4.3

BEFORE ANTI-SKID PAINT OR BEFORE INSTALLING D2397-5

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



DESIGN	BW	DRAWN BY	CP	DART AEROSPACE LTD
CHECKED	KE	APPROVED	MM	HAWKESBURY, ONTARIO, CANADA
DATE	98.12.04	DRAWING NO.	D2362	REV. E
		TITLE	STEP SUPPORT BRACKET	SHEET 3 OF 3
		SCALE	1:2	

UNDER REVIEW

01/03/15 CP

DESIGN OK, BUT CHECK WITH
DTS BEFORE MANUFACTURE

RELEASED
98.12.14 KE

D2362-041 (SHOWN)

FINISH: POWDER COAT WHITE (REF. 4.3.5.1) PER
QSI 005 4.3
ANTI-SKID PIAINT PER QSI 005 4.4 AFTER
POWDER COATING

D2362-7 (SHOWN AS PART OF D2362-041)

MAKE FROM D2265 CASTING. DRILL D2265 AS
SHOWN IN D2362-041 ASSEMBLY

NOTES:

TOLERANCES ARE PER DART QSI 018 UNLESS
OTHERWISE NOTED

